



## PATENT ABSTRACTS OF JAPAN

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## (54) INK JET HEAD

## (57) Abstract:

**PURPOSE:** To make compact an ink jet head by providing opening/closing means provided in an ink passage for coupling an ink vessel to an ink discharge port, and means for pressurizing ink by pressure gas, and forming the opening/closing means of a shutter member having an opening, and a shape memory alloy for driving the shutter member in response to a record signal.

**CONSTITUTION:** After ink is filled in a whole ink passage to an ink discharge port 3, pressure ink is supplied to an ink passage 110 at the ink reservoir side from a shutter member 8. When image signals 6 are applied to both ends of a shape memory alloy member 7, the member 7 is heated, and when it reaches to a martensite transition point, it tends to return to its original shape, thereby pulling up the member 8. In this case, when a pinhole 10 provided at the member 8 reaches the passage 110, the pressure ink is discharged from the port 3. Then, after the signal is applied, the member 7 is cooled by the member 7,

and when it is cooled to a martensite transition point or lower, the member 8 is returned by the recoiling force of an elastic member 9 to close the pinhole 10. Since, many nozzles each having simple structure are arranged in high density the structure is simplified and made compact.

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